



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/342,768	06/29/1999	SCOTT BERMINGHAM DOYLE	17286	7075

7590

07/30/2003

THE WHITAKER CORPORATION
4550 NEW LINDEN HILL ROAD
SUITE 450
WILMINGTON, DE 19808

EXAMINER

NGUYEN, THUAN T

ART UNIT

PAPER NUMBER

2685

DATE MAILED: 07/30/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

94

Office Action Summary

Application No.

09/342,768

Applicant(s)

Doyle et al.

Examiner

Thuan Nguyen

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2685

DETAILED ACTION

Remarks

1. The Examiner makes a mistake by including a Final statement in the previous Office Action (paper no. 10). The previous Office Action should be treated as a non Final Office Action; and this follow Office Action should be treated as a Final Action (see the examiner's argument).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 and 4 recites the limitation "the horizon" in the claim language. There is insufficient antecedent basis for this limitation in the claim.
4. Claims 1 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As for claims 1 and 4, the step of "...radiating elements to mitigate radiation above the horizon" seems to be brought up as a critical step in the present application for allowance; however, the examiner found that, as acknowledged by the applicants, the radiation pattern of a standard LMDS antenna shows insufficient signal gain (as in Figure 6) of the gain pattern profile above the horizon; in other words, it is admitted as a fact that the more signal travels, the less signal gain produces. Therefore, there is no novel feature at all herein; and the Applicants do not point out clearly what is novel in the claim language of claims 1 and 4 as cited.

Art Unit: 2685

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blasing et al. (U.S. Patent No. 5,771,449) in view of Langston (U.S. Patent No. 6,101,174).

Regarding claim 1, in further view of the Rejection 112-2nd above, Blasing et al (or "Blasing" hereinafter) discloses a local multipoint distribution service system (LDMS) having an antenna for transmitting a signal of reused frequency within a specified range from the antenna (see Figs. 1-3 & 19-24, col. 7/lines 8-53 for antenna using in LDMS system, and col. 13/line 60 to col. 14/line 15 for LDMS issue, and col. 5/lines 25-33 for frequency re-use), the antenna having multiple radiating antenna elements (see col. 22/lines 35-50 and col. 24/lines 45-50 for antennas which distribute power to the individual radiating elements of antennas), each of the antenna elements being adjusted in phase and in amplitude of radiated signal across the radiating elements to mitigate radiation above the horizon, i.e., radiation or signal power output can be attenuated above the horizon and each of the antenna elements being adjusted in phase and in amplitude of radiated signal therefrom to decrease attenuation in radiated power with distance from the

Art Unit: 2685

antenna (see col. 21/lines 40-53 to ensure the attenuation among radiated power from nearby antennas).

Blasing might not clearly show that the step of “each of the antenna elements being adjusted in phase and in amplitude of radiated signal across the radiating elements to mitigate radiation above the horizon” as argued by the Applicant; however, in the same field of endeavor, Langston clearly teaches that the phase shifts and the amplitude of radiated signals across the radiating elements of an antenna array (Figs. 6-7) can be adjusted, for example, the stubs 83 can be adjusted for the phase shifts and the amplifiers 67 for amplifying or amplitude adjusting for an antenna array in a LMDS system (col. 6/lines 8-22 & col. 6/line 23 to col. 7/line 22 for LMDS system). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Blasing’s system with Langston’s technique of adjusting in phase and amplitude as disclosed in order to obtain an enhanced LMDS system that can adjust the phase and amplitude of radiated signal across the radiating elements of an antenna array to mitigate radiation above the horizon for decreasing the attenuation in radiated power with distance from the antenna as desired.

As for claim 2, in further view of claim 1 above, Blasing further suggests the step of “each of the antenna elements being adjusted in phase and amplitude of signal across the antenna elements to mitigate nulls between lobes of combined radiated signals collectively from the antenna elements”, i.e., the maximum and minimum power level is maintained by implementing the low side lobe or shape beam antennas in adjacent sectors (see col. 23/lines 35-50).

Art Unit: 2685

With respect to claim 3, in further view of claim 1 above, Blasing further reveals "each of the antenna elements being adjusted in phase and in amplitude of signal across the antenna elements to reduce excess signal power at near range", i.e., an excess power output is reduced at near range or at adjacent sectors by eliminating unwanted energy from using low sidelobe antennas (see col. 22/lines 35-50).

As for claims 4-6, a corresponding method for use in the disclosed system is rejected for the reasons given in the scope of the system claims 1-3 as already disclosed above.

Response to Arguments

7. Applicant's arguments filed on June 9, 2003 have been fully considered but they are not persuasive.

The applicants argue that Blasing and Langston do not teach or suggest as for claims 1 and 4, the step of "...radiating elements to mitigate radiation above the horizon" seems to be brought up as a critical step in the present application for allowance; however, the examiner found that, as acknowledged by the applicants, the radiation pattern of a standard LMDS antenna shows insufficient signal gain (as in Figure 6) of the gain pattern profile above the horizon (page 9, lines 3-10); in other words, it is admitted as a fact that the more signal travels, the less signal gain produces. Thus, there is no novel feature at all herein. Therefore, the Examiner stands with the disclosure and teaching of Blasing and Langston as previously disclosed and discussed in this Final Office Action.

Art Unit: 2685

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for Technology Center 2600 only)

*Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).*

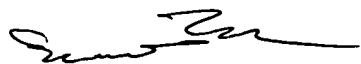
Art Unit: 2685

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (703) 308-5860. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

Tony T. Nguyen
Art Unit 2685
July 24, 2003


EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600